3. Field rinse processing equipment to ensure that all cleaning solution residues are removed, and to equilibrate equipment with sampling environment.
4. Wear powderless, disposable gloves while processing sample. Avoid contact with any potential source(s) of contamination. For example, keep gloved hands off any reactive (metal or plastic) objects when processing samples.

8.5.1 COMPOSITING AND SUBSAMPLING

Depending on study objectives, bottom-material sampling methods generally produce a composite sample. When sampling for chemical constituents, the sample usually is subdivided at the field site into a number of subsamples, each equivalent in constituent concentrations.

Use the following procedures when sample compositing and subsampling *(programmatic protocols might supersede some of the following procedures):*

1. Transfer sample (or core segments) from each sampling station to an appropriate compositing device, sieve, or sample container. Be sure to remove and transfer all particles (use nonreactive utensils).

   If using a grab sampler—Go to step 2 if sample is anaerobic and should not be aerated:

   a. With a clean, nonreactive spatula, carefully homogenize the composite sample until texture and color appear uniform.
   b. Using a nonreactive spatula, transfer a homogenized subsample to sieve (see 8.5.2) or sample container.

   If using a core sampler—Go to step 2 if sample is anaerobic and should not be aerated:

   a. If pore water is not a concern, carefully siphon off water overlying material in the corer or liner without disturbing the bottom-material/water interface. Leave a small amount of water at the bottom-material/water interface.
   b. Use a core extruder to gently and slowly force core material out of the corer or core liner.
      - If a core liner is used, visually inspect before extruding, sectioning, or slitting liner and core. Record features observed in field notes.

- Remove core catcher and check valve before extrusion process.
- Begin extrusion process from cutting end of barrel.
- Vertical extrusion is recommended.

c. Split the core lengthwise; visually inspect and make careful measurements of the core length and any layers that appear different.
   - Note deformation and compaction.
   - Note sloping layers, indicating possible nonperpendicular penetration of bottom.
   - Note changes in stratigraphy, such as color and texture.

d. As core is extruded, carefully remove (section) required material with clean, non-reactive utensils and transfer material into an appropriate compositing device or sample container. Transfer only material that meets project and sampling objectives. It is recommended that only undisturbed core material (material from the interior of the core) be transferred.

e. If compositing core material or segments, follow procedures listed above for the grab sampler.

2. To process sample in an oxygen-free atmosphere:

   a. Composite samples or extrude core under an oxygen-free atmosphere, such as a portable glove box filled with inert gas.

   b. Extrude cores in an oxygen-free glove box.

   c. Leave no headspace in sample containers.

   d. Pack sample containers in airtight bags and maintain at 4°C.

3. Complete sample processing (and preservation, where applicable).

4. Calculate and record in field notes the mean time and gage height for the period of sample collection. Record in field notes the bottom-material texture, color, odor, and any other characteristics.

5. Disassemble and clean samplers, sieves, and other equipment.

Splitting and subsampling core material are best done in a controlled environment—not in the field.